Algebra: Graphing systems of linear inequalities

Homework: due today (for those of you not here)

3.3/11-44 pp 176-177

due tomorrow

3.4/9-45 pp 183-184

Nov 26-10:04 AM

Algebra: Graphing systems of linear inequalities

3.2 Practice Level B # 6

$2b = 2a + b - 4$

$-b \quad -b$

$b = 2a - 4$

$3a = 3b - a + 2$

$+a \quad +a$

$4a = 3b + 2$

(E1) $2a - 4 = b$

$4(2a - 4 = b)$

(E2) $4a = 3b + 2$

$2(4a = 3b + 2)$

$2(E1) = 2(2a - 4 = b)$

$4a - 8 = b$

(E2) $4a = 3b + 2$

$-4a + 8 = -b$

$8 = 2b + 2$

$-2 \quad -2$

$\frac{6}{2} = \frac{2b}{2}$

$3 = b$

why 2? because $2 \times 2 = 4$ (2 from E1, 4 from E2)

$4a - 8 = b$

$4a - 8 = 3$

$+8 \quad +8$

$4a = 11$

$a = \frac{11}{4}$

Elim

1) picking a variable

a

2) in each equation identify coeff

(E1) 2

(E2) 4

3) multiply by "wrong" coeff...

Goal: get coefficients equal

4) chg all the signs in 1 equat

5) ADD

Nov 26-10:04 AM

Algebra: Graphing systems of linear inequalities

3.2 Practice Level B # 12

$\frac{1}{5}x - \frac{2}{5}y = \frac{3}{2}$ $\quad \frac{1}{8}x - \frac{8}{7}y = 4\frac{1}{16} = \frac{16}{16}+\frac{16}{16}+\frac{16}{16}+\frac{16}{16}+\frac{1}{16}$

$= \frac{64}{16}+\frac{1}{16} = \frac{65}{16}$

$\frac{1}{5}x - \frac{2}{5}y = \frac{3}{2}$ $\quad \frac{1}{8}x - \frac{8}{7}y = \frac{65}{16}$

pick a variable x

$\frac{1}{8}\left(\frac{1}{5}x - \frac{2}{5}y = \frac{3}{2}\right)$ $\quad \frac{1}{5}\left(\frac{1}{8}x - \frac{8}{7}y = \frac{65}{16}\right)$

$\frac{1}{40}x - \frac{2}{40}y = \frac{3}{16}$ $\quad \frac{1}{40}x - \frac{8}{35}y = \frac{65}{80}$

switch signs

$-\frac{1}{40}x + \frac{8}{35}y = -\frac{65}{80}$

$0 \quad \left(-\frac{2}{40}+\frac{8}{35}\right)y = \left(\frac{3}{16}-\frac{65}{80}\right)$

$\left(\frac{-14}{280}+\frac{64}{280}\right)y = \frac{15}{80}-\frac{65}{80}$

$\frac{280}{50}\left(\frac{50}{280}\right)y = \left(-\frac{50}{80}\right)\frac{280}{50}$

$y = -\frac{280}{80} = -\frac{28}{8} = -\frac{14}{4} = -\frac{7}{2}$

35 | 40

5·7 | 2·2·2·5

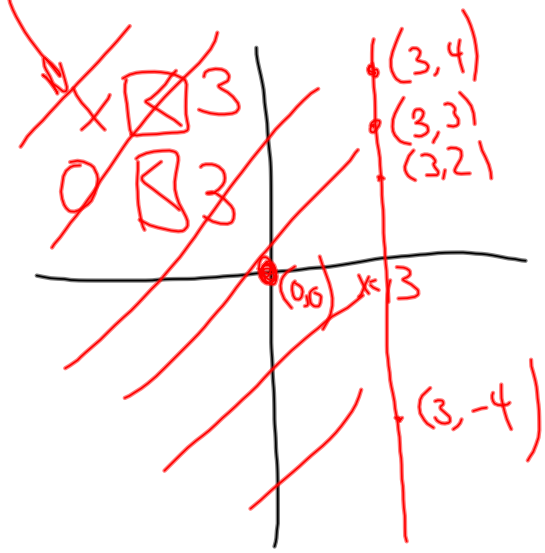
LCD = 280

2·2·2·5·7

Algebra: Graphing systems of linear inequalities

Graph $x \leq 3$

Line: $x = 3$



1) replace inequality with =

2) graph the line lightly

3) use a point to determine "good side" or "bad side"

4) "fix" the line

$\leq, \geq$ solid

$<, >$ dotted/dashed